

DISSERTATION

**BEHAVIOURAL ECONOMICS AND DECISION-MAKING IN AGRICULTURAL
HOUSEHOLDS: EVIDENCE FROM RURAL UGANDA**

FAITH MASEKESA

2017



National Graduate Institute for Policy Studies

Summary

The agricultural sector is critical to the economies of all African countries. The growth of the sector is central to not only increasing food security and poverty reduction but as well as to industrialization, economic growth and development (World Economic Forum, 2016)¹. Empirical findings indicate that suboptimal agricultural choices due to a number of factors that include the absence of full insurance, group-based inequalities, and land tenure insecurity hinder agricultural productivity. However, there is strong evidence of persistence of gender disparities with respect to ownership of property (land) and wages in most African countries and smallholder farmers do not have access to insurance. Inequality caused by exogenous circumstances like gender may have implications for feelings of equity and fairness, thus discouraging individual effort to the detriment of economic growth. Due to the absence of insurance, some rural farmers tend to devote a disproportionate share of farmland to low risk low return crops and avoid modern inputs, thus they remain poor and locked in a poverty trap [Dercon, 1996; Van Campenhout, et al., 2016].

To shed light on the impact of various types of land/ property rights and wage inequality, this study examines the effect of changing entitlements and relative wages on individual productivity. Furthermore, this dissertation investigates whether the household head's risk preference influences the choice to grow low- or high-risk crops and the share of the farmland devoted to each crop. We also examine the effect of risk attitude on adoption and intensity of chemical fertilizer use. We use experimental and survey data to assess the implications of varying entitlements and wages on

¹ World Economic Forum on Africa, 2016. <https://www.weforum.org/agenda/2016/05/70-of-africans-make-a-living-through-agriculture-and-technology-could-transform-their-world/>

productivity. We obtained the experimental data from the lab-in-field experiments that we conducted simultaneously with the fifth round of the Research on Poverty, Environment, and Agriculture Technologies (RePEAT) survey in 2015. In order to examine the effect of risk and time preferences on crop and input choice, we use experimental and survey data collected during the RePEAT surveys which were conducted in 2003, 2005, 2009, 2012, and 2015 in rural Uganda.

The RePEAT data contains comprehensive community- and household-level data collected in rural Uganda in 2003, 2005, 2009, 2012, and 2015. The community level information includes the distance of the village from the district town and the type of road. Household information includes household composition and demographics, wealth, economic activities, land use, crop production, and crop inputs. The experimental data includes household head's risk and time preferences (risk-aversion, loss aversion, discount rate, and present bias), and output-productivity from the real effort experiments. We use information on crop production to determine the share of farmland devoted to each crop, which is one of the key outcome variables in our analysis. Another key outcome variable is the output-productivity from the real effort experiments. The household and community data is used as control variables in our cross-sectional and panel analysis.

The results generally indicate that there is an inverse relationship between relative wage and relative output: partners paid relatively more work relatively less. This contradicts the most straightforward interpretation of the unitary and collective model predictions of the effect of relative wage on relative output. Our results are though consistent with the predictions of some non-cooperative models. We also find that female participants' productivity is more responsive to changes in entitlements, compared to male participants. Generally, men and women respond

differently to changes in entitlements. What is more interesting is that for both male and female participants there is no significant difference in household output when we compare the “Sharing equally” and “Men gets all” categories. Furthermore, we find that risk attitude and time preference influence crop and input choices. More precisely, the results indicate that risk and loss aversion have a significant effect on the adoption of chemical fertilizer. The degree of loss aversion influences the intensity of fertilizer use but other preference parameters do not. The results also suggest that both time and risk preferences influence the choice to grow some crops; however, only loss aversion influences the share of land devoted to growing crops.

Obviously, there is a long distance between the controlled circumstances of our experiment and major policy changes. Yet, our results give support to the idea that equitable policies to promote the advancement of women can be achieved with no detrimental effect on productivity. Moreover, our findings suggest that policies that influence farmer’s risk attitude may be crucial in boosting agricultural choices and, hence, agricultural performance.